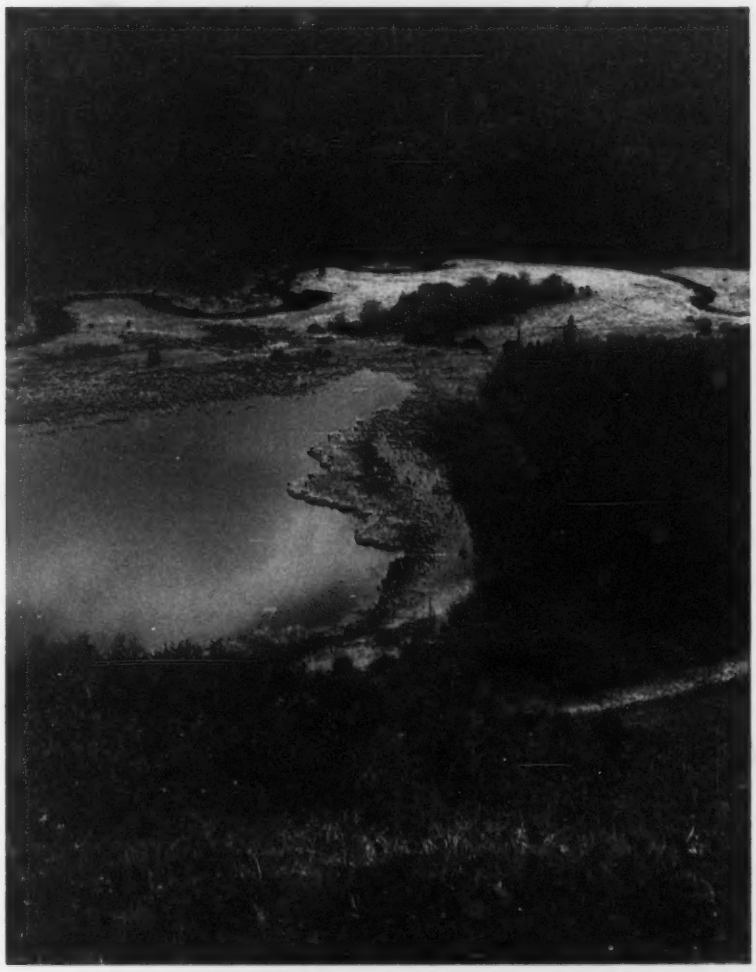
ERCB

Review of the Battle Lake Watershed Development Planning Pilot Project

Report of the Multistakeholder Working Group

March 2011



Energy Resources Conservation Board

ACKNOWLEDGEMENTS

Members of the working group: Battle Lake Residents—Michael Black, Dave Doze, Terry Wildman, Tim Belec; Encana Corporation—Darcy Allen; ConocoPhillips—Paula Hauck; Advantage Oil & Gas Ltd.—Monte Hurt; Trilogy Energy— Sue Dsikun; ERCB—Stephen Harrington, Marta Darwent, Kim Eastlick (ERCB advisor to the working group)

ENERGY RESOURCES CONSERVATION BOARD
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Energy Resources Conservation Board
Suite 1000, 250 – 5 Street SW
Calgary, Alberta
T2P 0R4

Telephone: 403-297-8311
Fax: 403-297-7040
E-mail: infoservices@ercb.ca
Web site: www.ercb.ca

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Executive Summary

Background

Stakeholders in the Battle Lake watershed were concerned about the effects of oil and gas development on the lake and made their concerns known through regulatory processes. In Alberta Energy and Utilities Board (EUB/Board; now the Energy Resources Conservation Board [ERCB]) *Decision 2005-129: Ketch Resources Ltd., Review of Well Licence No. 0313083 and Application for Associated Battery and Pipeline, Pembina Field*, the Board panel identified that "additional measures must be taken to ensure that future development continues to be conducted in an orderly, effective, and environmentally sensitive manner." Consequently in January 2006, a multistakeholder committee comprising representatives of the ERCB and the Battle Lake Watershed Synergy Group (BLWSG) was struck to define terms of reference for a pilot project that would address oil and gas development in the Battle Lake watershed and to implement the project. The work of the committee culminated with the release in December 2006 of the *Battle Lake Watershed Development Planning Pilot Project—Report of the Multistakeholder Pilot Project Team* (pilot project report), which contained a list of recommendations.

In May 2010, a working group with industry and community representatives of the BLSWG and representatives of the ERCB was formed to evaluate the status of these recommendations and publish its findings.

Review of Pilot Project Recommendations

Listed below are each of the seven recommendations contained in the pilot project report, along with its status (ongoing or completed), activities undertaken, and, if warranted, further recommendations.

Recommendation No. 1

Use a three-tiered approach to identifying protection priorities for land areas in the Battle Lake watershed.

Status: Complete

A three-tiered approach was developed in 2007. In May of that year, the ERCB issued a revised edition of *Directive 056: Energy Development Applications and Schedules*, which includes additional application requirements for oil and gas development in the Battle Lake watershed in Section 8: Additional Application Requirements (Special Circumstances).

Further Recommendation(s)

Current mapping does not provide the resolution to clearly identify the Tier 1 area and, as stated in *Directive 056*, may not have identified and designated all water features, notably springs in the area. Further groundtruthing may be required to delineate the Tier 1 area; thus, the oil and gas industry should seek other source data.

An assessment of potential development sites is needed to verify whether unmapped water features are present. If unmapped water features are identified, these areas should be protected consistent with Tier 1 practices.

Recommendation No. 2

> Forward a recommendation to Alberta Department of Energy [DOE] that the future oil and gas rights sales include notification that access may be restricted in the Tier 1 area. Forward a similar recommendation to Alberta Sustainable Resource Development [SRD] regarding disposition of surface leases on public lands in the Battle Lake watershed.

Status: Complete

Initial letters were sent to the DOE and SRD respectively in August 2007. Follow-up letters were sent in December 2010. The ERCB recommended that DOE notification for future Crown oil and gas rights sales in the Battle Lake area include information that special conditions exist with respect to applications for wells and other facilities in the Battle Lake Tier 1 area. The ERCB also recommended that SRD notify parties applying for oil and gas surface facility leases on public lands in the Tier 1 area that special application conditions exist with respect to lands in the Battle Lake Tier 1 area.

The DOE responded in a letter dated January 14, 2011, that it considers the department's *Information Letter (IL) 2007-21: Crown Mineral Rights: Identification of Major Surface Concerns in Public Offering Notices* to support the Tier 1 initiative, as the IL advises industry that it must be aware of any special operating conditions or requirements. The DOE further stated that it is "leading work on a project under the Land-use Framework to review both the type of and way information is provided on surface and environmental concerns prior to the public offering of Crown mineral rights" and that "initiatives like this one are informing our work."

Alberta Sustainable Resource Development (SRD) highlighted that in the last three to four years, it has not received any applications for oil and gas activity within the Battle Lake watershed.

SRD also responded in a letter dated January 10, 2011, that "it supports managing oil and gas activity on Crown land in the Battle Lake area in consideration of watershed protection." SRD also mentioned that it would conduct "a further review of the management intent and status of Battle Lake Tier 1 lands to ensure appropriate mechanisms and notations exist to inform industry that there are special application conditions for these lands."

Recommendation No. 3

> Form a local industry Technical Subcommittee to share information on existing facilities and on available capacities, as well as to work together to minimize proliferation of facilities and surface disturbances in the area.

Status: Complete

An industry technical subcommittee has been established with representation from active local area oil and gas operators. The subcommittee reviewed the scope and expectations set out for it in the pilot project report and established several strategic priorities, including sharing information on area issues and concerns; developing means and methods for conflict resolution; and assisting in the creation, development, and implementation of Battle Lake watershed recommended practices.

Further Recommendation(s)

The BLWSG should revisit the scope and mandate of the industry technical subcommittee to discuss its ongoing value and/or re-establishing its representation and membership.

Recommendation No. 4

Develop a suite of Battle Lake watershed recommended practices.

Status: Complete

A handbook of best management practices has been developed and was presented at the BLWSG meeting held November 4, 2010.

Further Recommendation(s)

The BLWSG should continue with the identification, development, and implementation of best management practices.

Recommendation No. 5

Enable ongoing discussion and dialogue between the oil and gas industry and the community through the Battle Lake Watershed Synergy Group.

Status: Complete

The BLWSG has formed a communications subcommittee, held community information sessions, networked extensively with the community, and developed a Web site in conjunction with Synergy Alberta.

Further Recommendation(s)

The BLWSG should continue to provide a forum for the community and industry to exchange information, facilitate a shared understanding and awareness of the Battle Lake watershed, and continue to foster strong, positive relationships.

Recommendation No. 6

Define appropriate plans and responsibilities to support initial and ongoing implementation of the recommendations.

Status: Complete

Oil and gas operators with active operations within the Battle Lake watershed continue to participate in all initiatives of the BLWSG and remain committed to

- discussing area expectations, concerns, and commitments in order to develop a consistent approach to effectively respond to area sensitivities;
- providing technical review of recommended practices;
- providing regular updates to the BLWSG on any learnings, opportunities, and, achievements; and
- sharing and disclosing capital or development plans and initiatives in a timely manner.

Residents who are regular members of the BLWSG have and should continue to

- communicate to area residents the general function, mission, and objectives of the BLWSG;
- listen to concerns that residents have with regard to oil and gas development in the watershed area and forward these concerns to the BLWSG;
- provide awareness to all stakeholders of the uniqueness of the Battle Lake watershed;

- encourage other residents to attend the BLWSG meetings, thus ensuring broader community participation in the BLWSG process;
- encourage neighbours and area residents to be respectful when dealing with any stakeholders of the BLWSG; and
- assist in the ongoing development of best management practices.

Recommendation No. 7

Provide for an evaluation of the results of the pilot project in two to three years.

Status: Complete

As previously stated, a working group was formed in May 2010 to evaluate the project's results. The group's findings with respect to each recommendation contained in the pilot project report have been compiled and presented herein. With the delivery of this report, the planning pilot process and the efforts of the working group are complete.

As part of the project evaluation, the ERCB completed an assessment of development in the Battle Lake watershed. Licensing activity that occurred between January 2006 to December 2009 was determined, and a number of approved well, pipeline, and facilities licences were identified.

To assist in assessing the level of trust between the community and industry, an internal survey was conducted by the BLWSG. The survey revealed a generally favourable response regarding the group's accomplishments, although sustainability and momentum of the group were common concerns.

This recommendation also included assessing the effectiveness, as well as the cost and workload implications, of regulatory changes (e.g., Tier 1 nonroutine applications).

Due to decreased oil and gas activity and the lack of actual "test cases" in the Battle Lake watershed, the working group found it difficult to provide a true measurement of the effectiveness and implications of the regulatory changes (e.g., Tier 1 nonroutine applications). The group, however, did note that an existing challenge remains in identifying definitive criteria to determine Tier 1 and Tier 2 designations and to clearly differentiate between the two, which could potentially increase industry's workload.

Further Recommendation(s)

The ERCB should continue to monitor the ongoing status of the pilot project through active participation in the BLWSG by Community and Aboriginal Relations staff.

Conclusion

The Battle Lake Watershed Development Planning Pilot Project has resulted in an overall positive outcome.

Despite limited oil and gas activity conducted in the Battle Lake watershed, it appears that the pilot project has been successful in addressing both the spirit and intent of the original objectives and project deliverables. Further opportunities and challenges may become apparent should oil and gas development activity increase or intensify.

Several of the pilot project recommendations continue to evolve and the pilot project's objectives remain important in the Battle Lake area.

1 Introduction

Battle Lake is located in central Alberta about 60 kilometres southwest of Edmonton, Alberta. The lake is fed by springs and surface runoff from a small and relatively undisturbed watershed. The County of Wetaskiwin has put in place a Battle Lake watershed protection district bylaw, and the provincial government (Alberta Sustainable Resource Development [SRD]) has established the Mount Butte and South Battle Lake Natural Areas to protect approximately one-third of the shoreline and riparian zones, as well as some of the upland habitat.

Stakeholders in the Battle Lake watershed are concerned about the effects of oil and gas development on the lake and have made their concerns known through regulatory processes. In Alberta Energy and Utilities Board (EUB/Board; now the Energy Resources Conservation Board [ERCB]) *Decision 2005-129: Ketch Resources Ltd., Review of Well Licence No. 0313083 and Application for Associated Battery and Pipeline, Pembina Field,* the Board panel identified that "additional measures must be taken to ensure that future development continues to be conducted in an orderly, effective, and environmentally sensitive manner." Consequently in January 2006, a multistakeholder committee, comprising representatives from the ERCB and the Battle Lake Watershed Synergy Group (BLWSG), was struck to define a terms of reference for a pilot project to address oil and gas development in the Battle Lake watershed and to subsequently implement this project.

The Battle Lake watershed covers about two townships, Townships (Twp) 46, Range 2, West of the 5th Meridian, and Twp 46-3W5M, as well as small portions of Twps 46-1W5M, 45-1W5M, and 45-2W5M. The objectives of the Battle Lake Watershed Development Planning Pilot Project were to

- protect the watershed from adverse and cumulative effects of oil and gas development,
- mitigate the potential adverse effects of oil and gas development on area residents and other land users, as well as on wildlife habitat,
- provide industry with clear guidelines about what practices are acceptable to the community, and
- promote constructive communication that allows industry to proceed in a manner that meets the needs of most of the community.

The work of the multistakeholder team culminated with the release in December 2006 of the *Battle Lake Watershed Development Planning Pilot Project—Report of the Multistakeholder Pilot Project Team* (pilot project report), which contained seven recommendations.

The team recognized that its work was a pilot to test one means of addressing issues arising from multiple oil and gas activities in an area that residents and the ERCB viewed as needing enhanced protection. It also recognized that the Battle Lake pilot should not be viewed as a template for every area in the province where issues exist.

A working group, comprising industry and community representatives from the BLWSG, as well as representatives from the ERCB, was formed to evaluate the results of the project, in accordance with Recommendation No. 7 from the pilot project report, and set out their findings and recommendations in this report to the BLWSG and the ERCB.

2 Background

2.1 Battle Lake Historical Context

What Makes Battle Lake Special?[1]

In 1754 Anthony Henday made an attempt to establish fur trading between the Hudson's Bay Company and a large band of Blackfoot Indians. In his haste to establish a trade route before the rival Norwesters, he ended his journey short of the source of the Battle River, Battle Lake. Had Henday continued on, history might have been quite different concerning Battle Lake.

Not only is Battle Lake the source of Battle River, the area was home to both the Stoney Indians (Nakoda) and their nearby allies, the Cree (Nah-hiawuk). These two tribes spent part of the season in the woodlands, resulting in the opportunity to obtain the furs necessary for trade. Eventually this area was explored, became part of the overland route between Rocky Mountain House and Fort Edmonton and was visited by such notables as Father Albert Lacombe, Reverend Robert Rundle, and artist Paul Kane.

When Treaty No. 6 was signed, the Sharphead Band was given a reserve at Pigeon Lake, but when the fishery failed in 1883, they were relocated to Wolf Creek. Survivors of the ensuing starvation and disease were later assimilated into the Hobbema Four Bands of Cree—the Paul Band (west of Edmonton) and a few to Morley by 1890.

Subsequent logging and settlement from the turn of the century to the present have created varying impacts. But the truly amazing fact is that had Anthony Henday made it to Battle Lake and then been able to return today, 250 years later, he would have found few places so unchanged as the watershed!

The lake is situated in the Battle Valley, which was scoured by the Wisconsin Glacier and drainage of archaic Lake Edmonton until it was cut off by the North Saskatchewan River. The North Saskatchewan River drainage isolated Battle Lake and the Battle River, making them totally dependent on local runoff streams and springs, unlike most of Alberta's watersheds, which are supported by mountain glacial sources plus accumulating downstream precipitation. Maintaining the integrity of Battle Lake watershed is thus critical to sustaining both the lake and the river.

Although dominated by the woodlands and soil types of the Boreal forest (one of the most southeasterly extensions), the area overlaps with the foothills and parkland life zones and subsequently has flora and fauna of all three.

Battle Lake is unique in that it remains essentially a wilderness lake, which is conveniently located close to major populations (one hour from Edmonton and Red Deer and two-and-a-half hours from Calgary). In 1974, the County of Wetaskiwin commissioned the Battle Lake study and gave the lake a protected status with overwhelming support from area residents. That status was later modified into the County of Wetaskiwin's general plan and the Battle Lake watershed protection district was formed.

The provincial government saw the merit of protecting the area and created the Mount Butte and South Battle Lake Natural Areas, which now protect approximately one-third of the

[1] This section was written by Dave Doze on behalf of the Battle Lake Preservation Society.

shoreline and riparian zones, as well as some of the upland habitat. The deep (about 15 metres), clean, undisturbed aquatic habitat allowed Alberta Fish and Wildlife to carry out a successful stocking program in the early 1990s. For safety, habitat, and tranquility, the federal government has placed a speed limit on Battle Lake.

It is fitting that Albertans should have so many departments at each level of government supporting the concept of preserving such a rare, nearly pristine lake, so that lightly treading visitors for generations to come will have the opportunity to experience the Alberta their forefathers knew.

2.2 Overview of Battle Lake Watershed Licensing Activities

The following map and supporting tables identify all licensing activity that occurred in the Battle Lake area from January 2006 to December 2009. Note that all the application licensing activity, with the exception of the 2007 activity, occurred prior to the release of the pilot project report in December 2006.

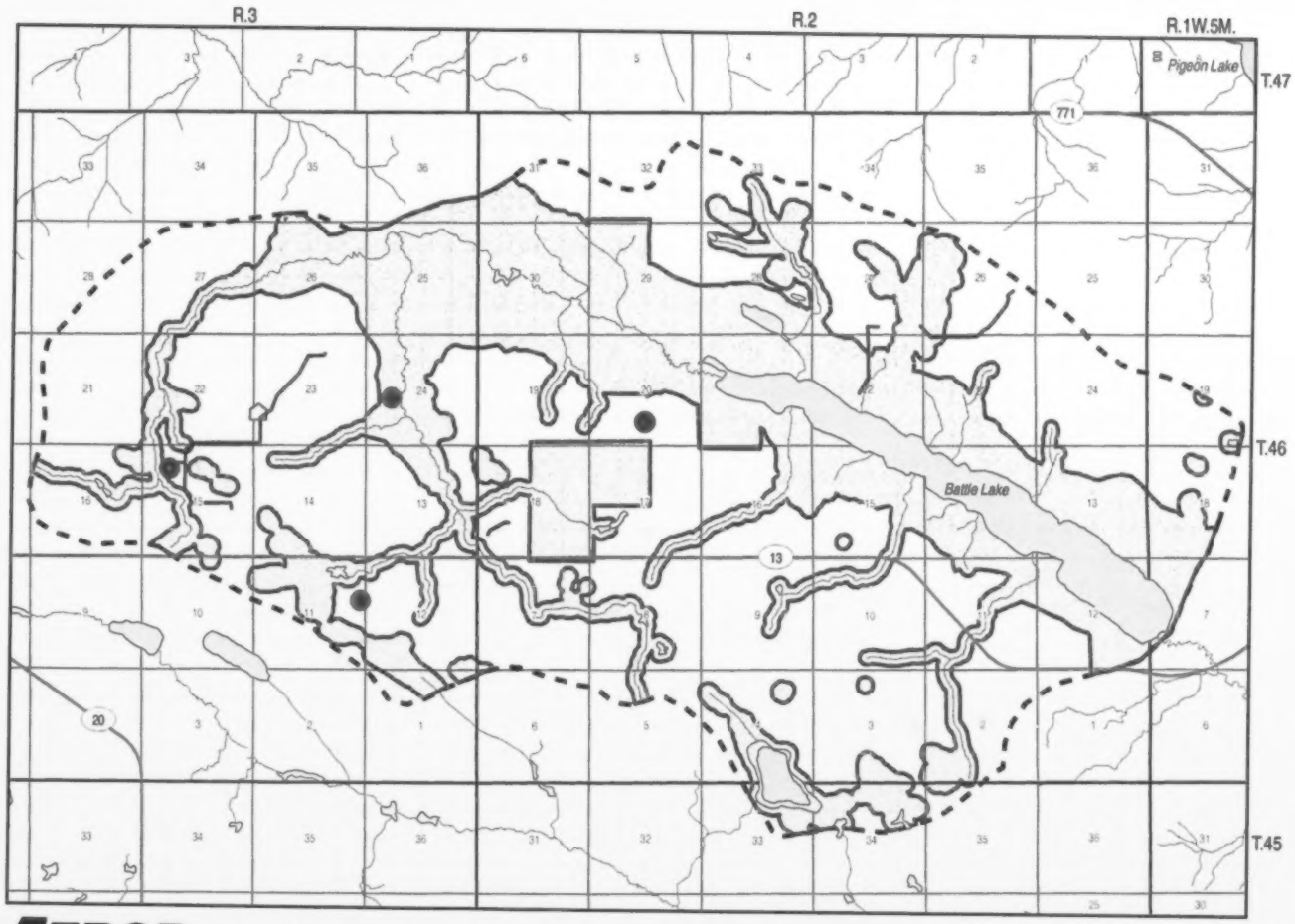

Figure 1. Licensing activity in the Battle Lake area, January 2006 to December 2009

Pipeline Data

Licensee	Licence #	Line #	From	FC	To	FC	Length	Status	OD	WT	Type	Grade	Mat	MOP	Stress	Joint	IP	Substance
Baytex Energy Ltd.	29849	1	2-27-46-2-5	Blind End	6-22-46-2-5	Blind End	1.29	Abandoned	60.3	3.20	Z245.1	2901	Steel	0	0	Thru-Kote Welded	Thin Film	Salt Water
Abandonment Application approved October 22, 2007																		
Advantage Oil & Gas Ltd.	47716	1	1-27-46-2-5	Well	8-26-46-2-5	Pipeline	2.20	Operating	114.3	4.80	Z245.1	3502	Steel	4960	16	Welded	Uncoated	Natural Gas
Application approved May 4, 2006																		
Insignia Energy Ltd.	47916	1	6-18-46-2-5	Well	4-18-46-2-5	Pipeline	0.41	Operating	88.9	3.20	Z245.1	2902	Steel	6900	33	Welded	Uncoated	Natural Gas
Application approved June 21, 2006																		
Canol Resources Ltd.	48060	2	15-23-46-3-5	Well	4-23-46-3-5	Compressor Station	1.47	Operating	114.3	3.20	Z245.1	3502	Steel	4960	25	Welded	Uncoated	Natural Gas
Canol Resources Ltd.	48060	1	8-15-46-3-5	Well	4-23-46-3-5	Compressor Station	2.83	Operating	114.3	3.20	Z245.1	3502	Steel	4960	25	Welded	Uncoated	Natural Gas
Canol Resources Ltd.	48060	3	13-15-46-3-5	Well	14-15-46-3-5	Pipeline	0.21	Operating	114.3	3.20	Z245.1	3502	Steel	4960	25	Welded	Uncoated	Natural Gas
Applications approved between August 1-22, 2006																		

Facility Data

Licensee	Licence #	H2S	Cat. Type	Location
Canol Resources Ltd.	36672	0.000	B040	04-23-046-03W5
Application Approved August 15, 2006				

Well Data

Licensee	Licence #	Cat Type	Spud_Date	Status	Surface Location
Canol Resources Ltd.	359109	140	8/14/2006	FLOWING	13-15-046-03W5
Application Approved June 20, 2006					
Canol Resources Ltd.	366004	140	12/17/2008	DRILLED AND CASED	09-11-046-03W5
Application Approved November 14, 2006					
Canol Resources Ltd.	373750	280	2/13/2007	ABANDONED ZONE	03-20-046-02W5
Application Approved February 6, 2007					
Insignia Energy Ltd.	351466	140	2/13/2008	DRILLED AND CASED	05-24-046-03W5
Application Approved February 8, 2006					

Figure 2. Overview of Battle Lake watershed application licensing activities from January 2006 to December 2009

2.3 Evolution of the Battle Lake Watershed Pilot Project

The flow chart below represents the evolution of the pilot project as a result of ERCB *Decision 2005-129*, wherein the Board panel identified that "additional measures must be taken to ensure that future development continues to be conducted in an orderly, effective, and environmentally sensitive manner."

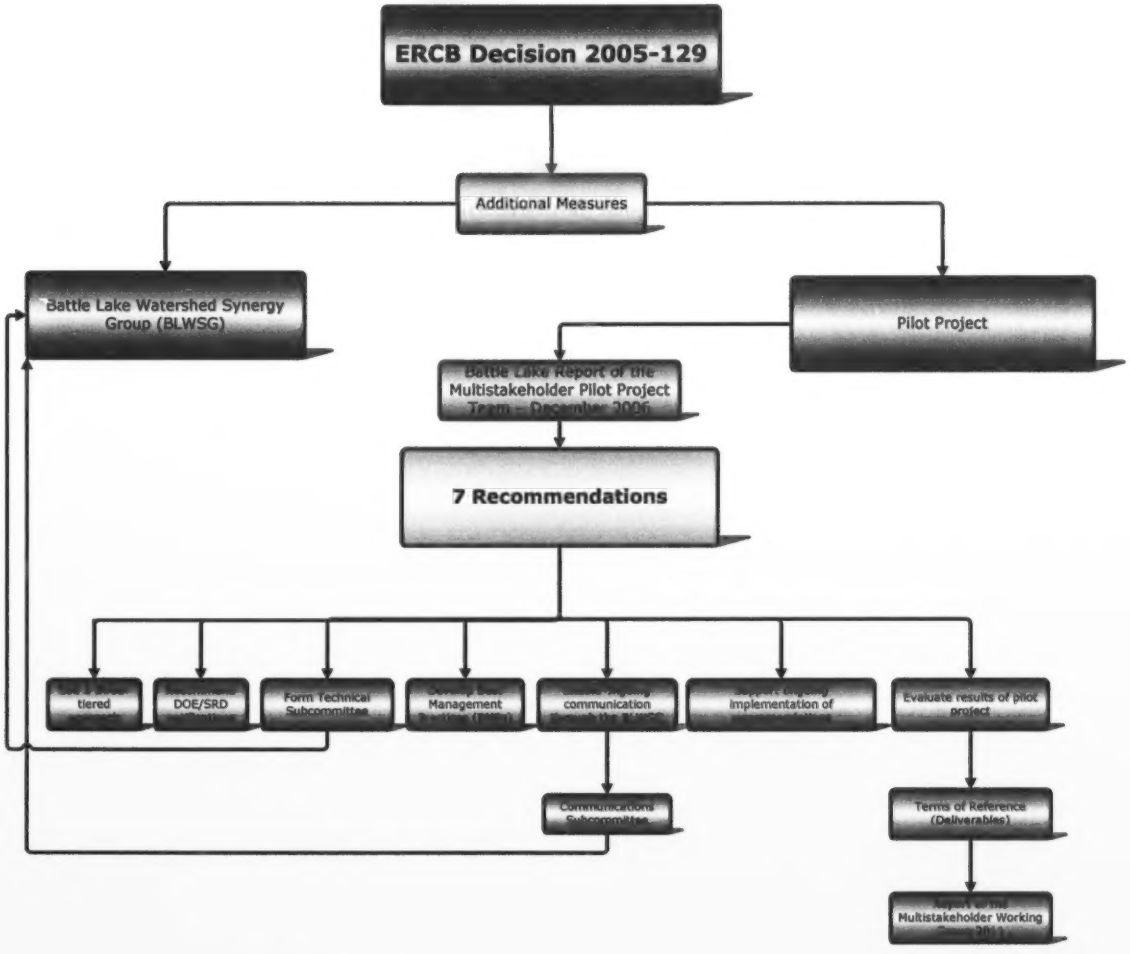

Figure 3. Evolution of the Battle Lake Watershed Planning Pilot Project

3 Review of Pilot Project Recommendations

The following seven recommendations were identified in the pilot project report. For each recommendation, a discussion of its status (completed or ongoing) is provided, along with any activities undertaken and, if warranted, further recommendations.

3.1 Recommendation No. 1

> Review information on development that occurred and related development impacts. Use a three-tiered approach to identifying protection priorities for land areas in the Battle Lake watershed.

Status: Complete

Tiered Levels of Protection

The pilot project team recognized that certain environmentally sensitive areas of the watershed should have greater protection than would be mandated by current provincial regulations. It also noted that many areas of the watershed are already subject to surface disturbance and that provincial requirements for those areas should be sufficient.

As a result of Recommendation No. 1, after a detailed review, area stakeholders recommended, and the ERCB concurred, that further disturbance by oil and gas development in close proximity to Battle Lake and surface water features in the contributing watershed (designated as the Tier 1 area) should be avoided where practical.

The Tier 1 area is defined as surface lands within

- 100 m of water features that feed into Battle Lake (water features for the purpose of this criterion include permanent and recurring streams, springs, and wetlands [fens, bogs, muskeg, marshes]; these include water bodies and wetlands as defined by the more stringent or comprehensive designations in the *Water Act* and the draft Alberta Wetlands Policy);
- 100 m of the 900 m (2950 foot) elevation contour along the shoreline of Battle Lake (top of the escarpments that parallel the lake); and
- the Mount Butte Natural Area, County natural areas, South Battle Lake Natural Area, and remaining undisturbed natural areas on public lands.

The ERCB determined that licence applications for oil and gas facilities located in the designated Tier 1 area will be considered through the *Directive 056: Energy Development Applications and Schedules* nonroutine application licensing process. The designated Tier 1 area as of May 1, 2007, includes Townships 45 and 46, Ranges 2 and 3, West of the 5th Meridian, and is illustrated in Appendix 1. Appendix 2 provides the Battle Lake Wetland and Natural Areas Inventory map completed in fall 2006, which sets out the mapped areas within Tiers 1, 2, and 3. Note that the current mapping of the watershed may not have identified and designated all water features, notably springs in the area. It is intended that water features in the watershed be protected. Therefore, assessment of potential development sites is needed to verify whether unmapped water features are present. If unmapped water features are identified, these areas are to be protected consistent with Tier 1 practices.

Application requirements as set out in the May 2007 edition of *Directive 056: Energy Development Applications and Schedules*, Section 8: Additional Application Requirements (Special Circumstances) were implemented.

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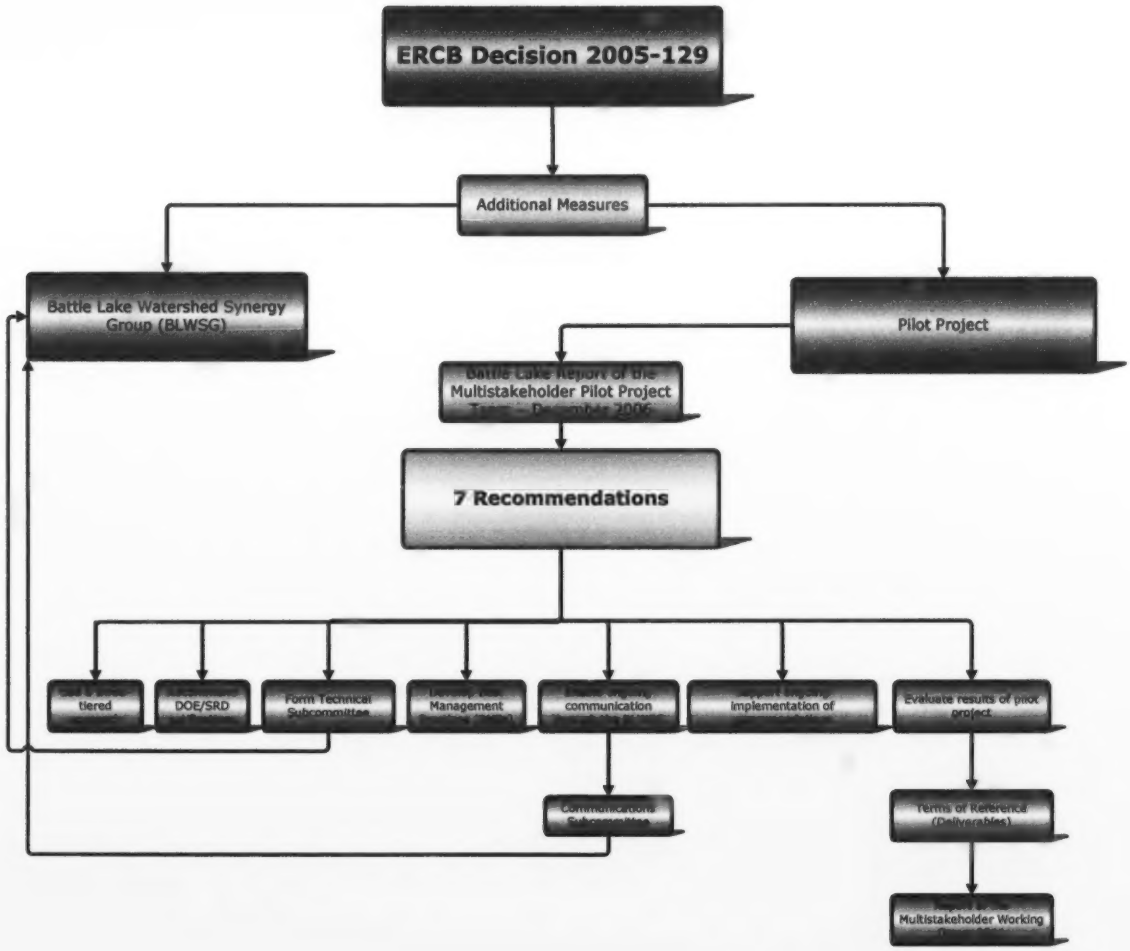

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Application requirements as set out in the May 2007 edition of *Directive 056: Energy Development Applications and Schedules*, Section 8: Additional Application Requirements (Special Circumstances) were implemented.

Proposed development within the Tier 1 area is subject to the following requirements:

1) Proponents must investigate alternative approaches for oil and gas development and, where feasible, are expected to select those that avoid further disturbance to the Tier 1 area.

2) If development within the Tier 1 area is viewed as unavoidable, proponents must

   a) assess opportunities to use existing facilities, road access, pipeline rights-of-way, and other pre-existing disturbances and to minimize incremental disturbances in the Tier 1 area;

   b) ensure that well, production battery, compressor, and gas plant sites located in the Tier 1 area have appropriate mitigative measures to prevent fluid spills and contaminated runoff from entering wetlands, streams, or the lake during construction and operational phases (e.g., runoff containment berms and retention ponds or catch-pans or devices for equipment seal leaks); and

   c) incorporate mitigative measures to maintain the integrity of pipelines and provide for early detection of and response to leaks for new hydrocarbon liquid and produced water pipelines traversing Tier 1 lands.

3) Proponents must conduct a preapplication on-site assessment to determine site and pipeline/road locations that will

   a) avoid sensitive habitats that may include bald eagle nesting sites, fern meadow sites, and other unique ecological features;

   b) identify and avoid steep slopes where construction could require significant surface disturbance or aggravate erosion problems; and

   c) avoid disturbance of springs, streams, and wetlands.

   A primary purpose of the site assessment is to verify whether unmapped water features are present. If unmapped water features are identified, these areas are to be protected.

The ERCB encourages applicants to

- participate in the BLWSG,
- review their plans and explain the rationale behind their proposed development in the Tier 1 area at a regular meeting of the BLWSG, and
- consult with the Battle Lake Preservation Society and seek its advice on locations and mitigative measures for new development in the Tier 1 area.

4) In addition to the required nonroutine documentation, all *Directive 056* applications for development in the Tier 1 area must be accompanied by documented justification that includes the following information:

   a) a cover letter that identifies that the proposed development is within the Battle Lake Tier 1 area;

   b) an explanation of the alternatives involving development outside the Tier 1 area that have been investigated and an explanation of why these are not technically feasible; the alternatives are to be compared with what is being proposed in the application in terms of potential land disturbance and other watershed effects, impacts on the public, resource recovery, and feasibility;

c) a description of the proposed site that describes existing cover, habitat features, and presence of surface water features (springs, streams, and wetlands);

d) an explanation of how existing facilities and disturbances have been incorporated into the project;

e) an explanation of mitigation measures the proponent will undertake to prevent contamination of surface water bodies from leaks and spills; and

f) a description of any feedback on the proposed development as a result of discussions with the BLWSG and/or the Battle Lake Preservation Society.

The ERCB expects that any new disturbance will be limited to the minimum area feasible and that cleanup, regrading, and establishment of natural cover similar to predisturbance conditions on unused portions of rights-of-way and lease sites will occur as soon as possible following construction.

Further Recommendation(s)

Current mapping does not provide the resolution to clearly identify Tier 1 lands and further groundtruthing may be required. Therefore, the oil and gas industry should seek other source data.

Comment: *Directive 056* states that the current mapping of the area that was done may not have identified and designated all water features, notably springs in the area. Assessment of potential development sites is needed to verify whether unmapped water features are present. If unmapped water features are identified, these areas are to be protected consistent with Tier 1 practices.

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Status: Complete

Initial letters were sent to the DOE and SRD respectively in August 2007; follow-up letters were sent in December 2010. The ERCB recommended that DOE notification for future Crown oil and gas rights sales in the Battle Lake area include information that special conditions exist with respect to applications for wells and other facilities in the Battle Lake Tier 1 area. The ERCB also recommended that SRD notify parties applying for oil and gas surface facility leases on public lands in the Tier 1 area that special application conditions exist with respect to lands in the Battle Lake Tier 1 area.

The DOE responded in a letter dated January 14, 2011, that it considers the department's *Information Letter (IL) 2007-21: Crown Mineral Rights: Identification of Major Surface Concerns in Public Offering Notices* to support the Tier 1 initiative, as the IL advises industry that it must be aware of any special operating conditions or requirements. The DOE further stated that it is "leading work on a project under the Land-use Framework to review both the type of and way information is provided on surface and environmental concerns prior to the public offering of Crown mineral rights" and that "initiatives like this one are informing our work."

SRD highlighted that in the last three to four years, it has not received any applications for oil and gas activity within the Battle Lake watershed.

SRD also responded in a letter dated January 10, 2011, that "it supports managing oil and gas activity on Crown land in the Battle Lake area in consideration of watershed protection." SRD also mentioned that it would conduct "a further review of the management intent and status of Battle Lake Tier 1 lands to ensure appropriate mechanisms and notations exist to inform industry that there are special application conditions for these lands."

3.3 Recommendation No. 3

> Form a local industry Technical Subcommittee to share information on existing facilities and on available capacities, as well as to work together to minimize proliferation of facilities and surface disturbances in the area. The Technical Subcommittee may also assist in coordinating work plans so that heavy traffic is better managed.

Status: Complete

An industry technical subcommittee has been established with representation from active local area oil and gas operators. The subcommittee has reviewed the scope and expectations as outlined for it in the pilot project report and developed the following strategic priorities:

- Collect and share information on area oil and gas infrastructures (batteries, pipelines, gas plants, leases and lease roads) in terms of design characteristics, operating condition, availability of capacity and optimization potential.
- Share and discuss capital development plans and assist each other in identifying opportunities to use current or modified existing infrastructures as a means to avoid new disturbances.
- Assist each other in enabling existing rights-of-way, access roads, and well sites to be used for new wells (for directional drilling to adjoining spacing units or to access other hydrocarbon pools).
- Obtain community input and work to develop approaches to address resident quality of life issues in cooperation with the BLWSG.
- Work with other oil and gas operators, the BLWSG, and the Battle Lake Preservation Society to share information on the area and learnings from site assessments to aid each other in managing impacts on wildlife habitat, natural areas, and water features.
- Share information on area issues and concerns and means and methods of resolution and develop technical learnings.
- Identify opportunities to coordinate construction, maintenance, and operations activities to reduce traffic, other impacts on residents, and costs to operators.
- Maintain effective ongoing communications with and participation in the BLWSG as a technical subcommittee.
- Assist in the creation, development, and consistent implementation of the Battle Lake watershed recommended practices.

Further Recommendation(s)

The BLWSG should revisit the scope and mandate of the industry technical subcommittee to discuss the ongoing value of the subcommittee and/or re-establish representation and membership for this group.

3.4 Recommendation No. 4

Develop a suite of Battle Lake watershed recommended practices.

Status: Complete

Several synergy groups and industry associations have developed best practices for oil and gas development throughout Alberta. The working group shares the belief of the project team that practices in the Battle Lake watershed that are consistent with other parts of the province will reduce the effort required by oil and gas companies to understand these practices. The project team also recognizes that Battle Lake watershed recommended practices need to be relevant to the unique characteristics of the watershed.

A handbook containing best management practices (BMPs) on the following topics has been developed:

- community engagement
- planning
- survey
- land agent
- drilling
- project planning and design
- pipeline design and construction
- compressor management
- dust and traffic management
- flaring
- weed control
- landowner liability
- protocol for respectful and cooperative behaviour

The handbook was presented at the BLWSG meeting held November 4, 2010.

Operators are expected to apply the BLWSG recommended practices in planning, constructing, and operating upstream oil and gas developments throughout the watershed.

Further Recommendation(s)

The BLWSG should continue with the identification, development, and implementation of BMPs. The BLWSG members have advised that there remains community interest and concern regarding a number of areas that were not addressed in the 2006 pilot project report, which require further discussion. Recent topics of discussion at the regular Battle Lake synergy group meetings have included such items as

- use of groundwater and surface water by upstream oil and gas development
- reclamation/remediation
- emergency response for spills and leaks and site containment

3.5 Recommendation No. 5

Enable ongoing discussion and dialogue between the oil and gas industry and the community through the Battle Lake Watershed Synergy Group.

Status: Complete

A communications subcommittee has been established with representation from within the BLWSG. This group assists in providing the synergy group members and the general community at large with pertinent information, newsletters, and announcements.

The BLWSG has held a number of community information sessions, provided representation at local events, and has networked extensively within the community to share information. Further events and initiatives are planned going forward.

The BLWSG has recently developed a Web site in conjunction with Synergy Alberta. Further construction and population of the Web site with information from the BLWSG are planned.

3.6 Recommendation No. 6

Define appropriate plans and responsibilities to support initial and ongoing implementation of the recommendations.

Status: Complete

Recommendation 6 contained a number of actions aimed at different agencies. The following table provides an update on those recommended actions.

Recommended action	Activities undertaken
The EUB [ERCB] should	
• develop and issue direction to implement nonroutine applications for the Tier 1 area and provide for technical review of related applications,	Requirements were implemented in the May 2007 edition of *Directive 056*, Section 8 (see Recommendation No. 1).
• continue to make Battle Lake information, including this report, available on its Web site,	Information is available on the ERCB Web site.
• prepare and forward recommendations to Alberta Department of Energy and Alberta Sustainable Resource Development regarding notice on the potential for restricted access in the Tier 1 areas (Recommendation 2), and	Letters sent to the DOE and SRD in August 2007 and December 2010.
• continue active participation in the BLWSG and its implementation of pilot project report recommendations.	An ERCB staff member from Drayton Valley Field Centre regularly attends and participates in the BLWSG meetings.

Recommended action	Activities undertaken
The Battle Lake Watershed Synergy Group should establish • a technical subcommittee (Recommendation 3), • a subcommittee and process to further develop Battle Lake recommended practices (Recommendation 4), and • a communications subcommittee and develop a communications strategy (Recommendation 5).	As previously mentioned, a technical subcommittee has been established. BMPs on additional topics are being discussed. In 2010, a brochure promoting the BLWSG was developed and the group became a member of Synergy Alberta. The BLWSG is in the midst of developing its own Web site under the Synergy Alberta umbrella and organizing an open house/neighbours' day in fall 2010 to provide better awareness of the group, as well as to address issues/concerns from the public. A communications subcommittee was established in 2007 to develop a communications strategy; however, due to lack of participation and scheduling conflicts, meetings were not held on a regular basis. It was proposed by the BLWSG that the communications subcommittee be reconvened to function on a regular basis or as required to (1) proactively establish a formal strategy to enhance/promote the BLWSG and area, including identifying and liaising with potential stakeholders and presenters, (2) review/assess current initiatives, e.g., BLWSG brochure, to see if they need to be updated, and (3) develop new ideas of communicating within the group itself, not just externally.
Upstream oil and gas operators active in the Battle Lake watershed should • provide leadership and participation in forming and sustaining the technical subcommittee, • continue to participate in and support the BLWSG and its subcommittees, • apply Battle Lake recommended practices appropriately and consistently in the area, and • share information to assist each other in minimizing facilities proliferation and impacts on the Battle Lake watershed.	Oil and gas operators with active operations within the Battle Lake Watershed area continue to participate in all initiatives of the Battle Lake Watershed Synergy Group. Operators in the area have and remained committed to a) discussing area expectations, concerns, and commitments in order to develop a consistent approach to effectively respond to area sensitivities; b) providing technical review of recommended practices in order to provide advice and guidance on the practicality and feasibility of implementation; c) providing regular updates to the Battle Lake Synergy Group on any learnings, opportunities, synergies, optimization, achievements, and integrated development initiatives; d) sharing and disclosing capital or development plans and initiatives in a timely manner; e) providing ongoing operational overviews with respect to servicing facilities, trucking requirements, shutdown, and turnaround schedules; and f) providing learnings and opportunities on new technologies, innovations, equipment failures, hazard identification, emerging issues, key regulatory or legislative changes/reforms, issues management, and successful mitigation strategies.

Recommended action	Activities undertaken
Battle Lake watershed residents should • bring forward community concerns and perspectives to the Battle Lake Watershed Synergy Group, • bring Battle Lake community perspectives to the Synergy Group subcommittees, • assist the technical subcommittee with its processes to coordinate industry activities in a way that reduces impacts on the community, and • work with neighbours to listen for concerns and to facilitate understanding of the pilot project recommendations and the work of the BLWSG within the community.	Residents who are regular members of the BLWSG have and should continue to a) communicate to area residents the general function, missions, and objectives of the BLWSG; b) listen to concerns that residents have with regard to oil and gas development in the watershed area and forward these concerns to the BLWSG; c) provide awareness to all stakeholders of the uniqueness of the Battle Lake watershed, d) encourage other residents to attend the BLWSG meetings, thus ensuring broader community participation in the BLWSG process, e) encourage neighbours and area residents to be respectful when dealing with any stakeholders of the BLWSG, including oil and gas operators, regulatory representatives, other residents, and Wetaskiwin County personnel, and f) assist in the ongoing development of BMPs and the technical subcommittee's efforts to coordinate industry activities in a way that reduces impacts on the watershed area and associated communities.

3.7 Recommendation No. 7

Provide for an evaluation of the results of the pilot project in two to three years.

Status: Complete

As previously stated, a working group was formed in May 2010 to evaluate the project's results. The group's findings with respect to each recommendation contained in the pilot project report have been compiled and presented herein. With the delivery of this report, the planning pilot process and the working group's efforts are complete.

As part of the project evaluation, the ERCB undertook an assessment of development in the Battle Lake watershed. Licensing activity that occurred between January 2006 to December 2009 was determined, and a number of approved well, pipeline, and facilities licences were identified. The map, along with supporting data, is found in Section 2.2 of this report.

The most recent development applications were by Trilogy Blue Mountain Ltd. for a well licence and a pipeline licence in the Pembina Field, which were considered at a Board hearing that commenced on September 2, 2009, in Westrose, Alberta. *Decision 2009-072: Trilogy Blue Mountain Ltd., Applications for a Well and a Pipeline Licence, Pembina Field*, issued December 15, 2009, denied Trilogy's applications.

Recommendation No. 7 included assessing the level of trust between the community and industry and satisfaction with the implementation of recommendations.

The Battle Lake Watershed Group conducted an internal survey asking participants and members to provide feedback as to whether the synergy group is meeting expectations overall. Although mixed views were expressed, the general response was favourable towards

the group's accomplishments thus far. Comments were also made that the synergy group meetings provided a positive forum to identify and discuss local issues and concerns. The majority of respondents believed that since the inception of the BLWSG, the relationships, communication, and respect among landowners, industry, and the regulator have improved greatly.

Sustainability and momentum of the group were common concerns. A number of respondents believed that the group was facing real challenges in maintaining interest, participation, and progress going forward. Ever growing demands on personal work-life balances and the downturn in industry activity were cited as reasons for the apparent wane. As a number of participants have changed recently, several suggestions were received that it may be beneficial for the group to allocate a portion of a future meeting to revisit and reaffirm the BLWSG vision, mission, and values and to set aside some time to discuss strategic planning.

Overall, the group believes that it has had success, and many members are optimistic that further accomplishments can be achieved.

Recommendation No. 7 also included assessing the effectiveness, as well as the cost and workload implications, of regulatory changes (e.g., Tier 1 nonroutine applications), which determined the following:

- Due to decreased oil and gas activity and the lack of actual "test cases" in the Battle Lake watershed, it is difficult to provide a true measurement of the effectiveness and implications of the regulatory changes.

- An existing challenge remains in identifying definitive criteria to determine Tier 1 and Tier 2 designations and to clearly differentiate between the two. This is the only example that the working group could identify as having a potential to increase the "workload" due to the additional care and control required to perform a thorough environmental assessment or investigation of "unmapped" environmental sensitivities when proposing and evaluating surface locations for potential development.

Further Recommendation(s)

The ERCB should continue to monitor the status of the pilot project through active participation in the BLWSG by ERCB Community and Aboriginal Relations staff.

4 Conclusion

The working group finds that the Battle Lake Watershed Development Planning Pilot Project has resulted in an overall positive outcome.

Progress has been made in several areas with respect to implementation of the pilot project's recommendations.

Several of the recommendations continue to evolve and the objectives of the pilot project—to protect the watershed from adverse and cumulative effects of oil and gas development and mitigate the potential adverse effects of oil and gas development on area residents and other land users—continue to be important in the Battle Lake area.

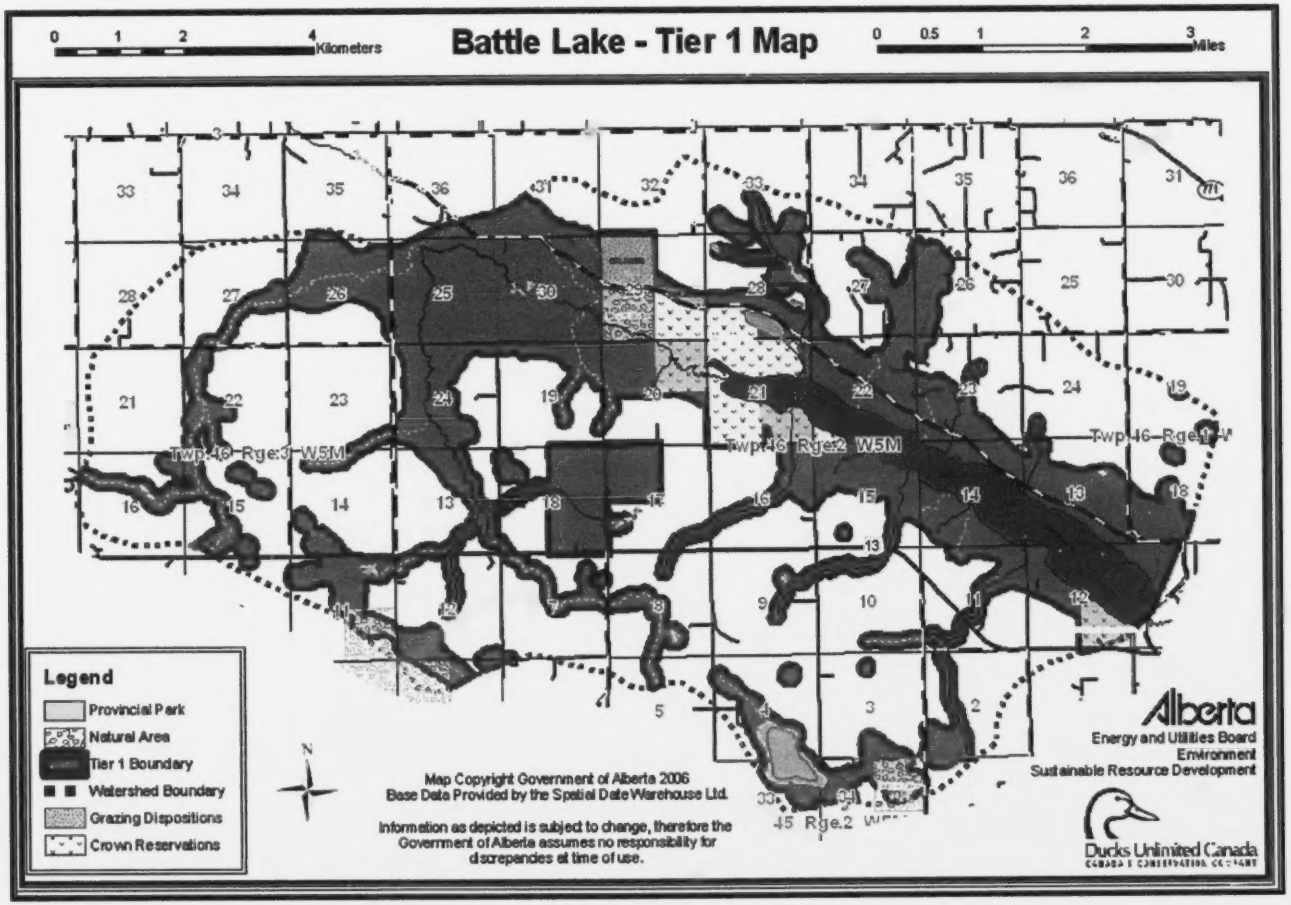
Continued engagement of the parties within the BLWSG will help to foster respectful behaviour, and ongoing participation in the BLWSG by the ERCB would assist with further implementation of the pilot project recommendations.

Work on the *Battle Lake Watershed Synergy Group BMP* handbook, which addresses concerns regarding consultation and community input into operator development plans, project plans and design, and work practices, remains important.

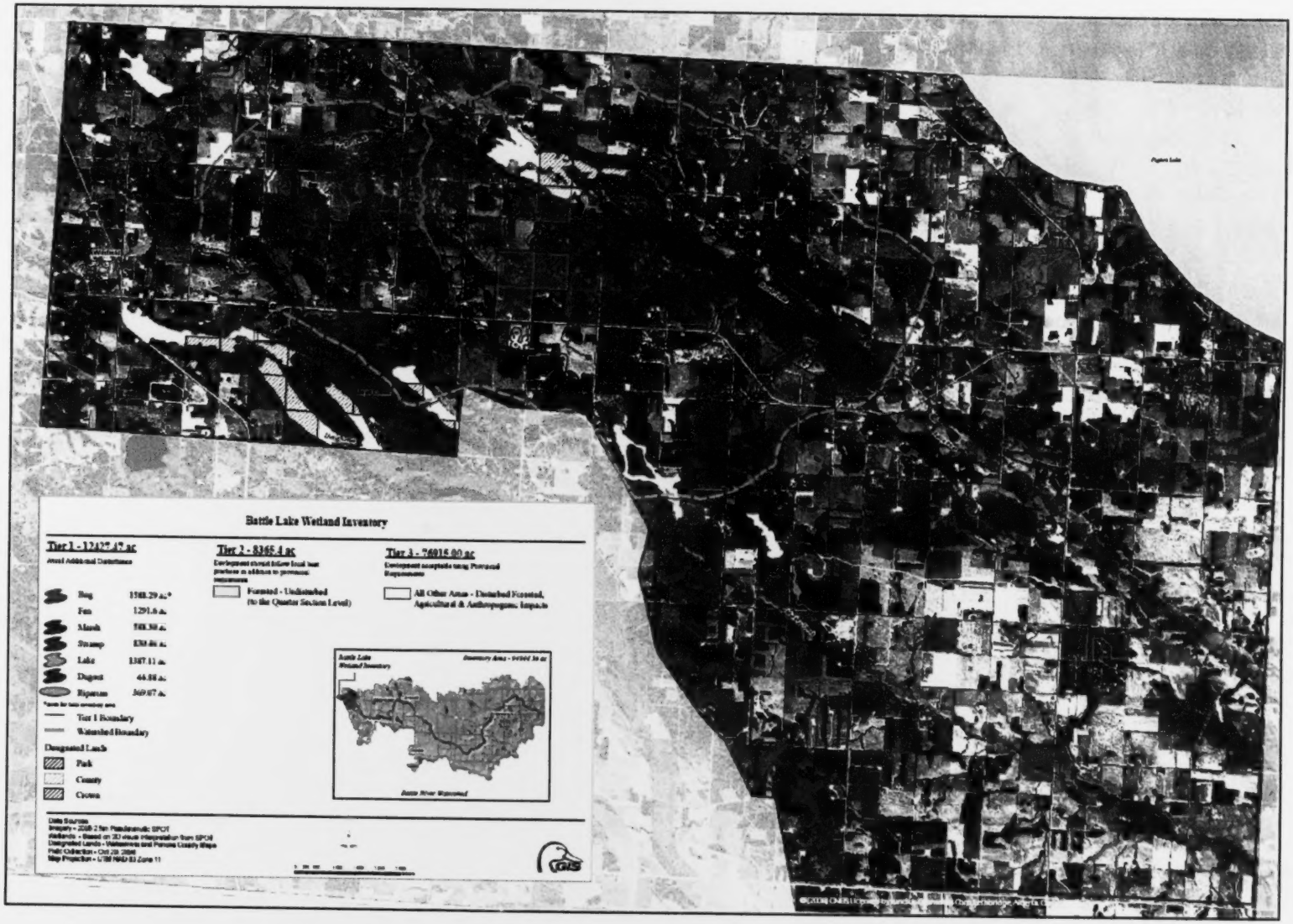
Decreased industry activity and lower commodity prices have affected the potential for development in the Battle Lake area since 2006; consequently, the pilot project was not fully tested as a means of addressing issues arising from multiple oil and gas activities in an area that residents and the ERCB viewed as needing enhanced protection. Further opportunities and challenges may become apparent should oil and gas development activity increase or intensify.

Despite the limited oil and gas activity conducted in the Battle Lake watershed, it appears that the pilot project has been successful in addressing the spirit and intent of the original objectives and project deliverables, including demonstrating that relationship building and open and honest communication among oil and gas operators, area residents, and landowners are effective means of creating solutions among diverse interests.

Appendix 1 Battle Lake Watershed Tier 1 Constraints Map


Battle Lake - Tier 1 Map
0 1 2 4 Kilometers
0 0.5 1 2 3 Miles
Twp.46 Rge.3 W5M
Twp.46 Rge.2 W5M
Twp.46 Rge.1 W
45 Rge.2 W
Legend
Provincial Park
Natural Area
Tier 1 Boundary
Watershed Boundary
Grazing Dispositions
Crown Reservations
N
Map Copyright Government of Alberta 2006
Base Data Provided by the Spatial Data Warehouse Ltd.
Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.
Alberta
Energy and Utilities Board
Environment
Sustainable Resource Development
Ducks Unlimited Canada

Appendix 2 Battle Lake Wetland and Natural Areas Inventory Map



Appendix 3 References

Alberta Energy and Utilities Board, 2006, *Battle Lake Watershed Development Planning Pilot Project—Report of the Multistakeholder Pilot Project Team.*

Alberta Energy and Utilities Board, 2006, *Battle Lake Watershed Development Planning Pilot Project—Summary Report of the Multistakeholder Pilot Project Team.*

Battle Lake Watershed Synergy Group, October 2010, *Battle Lake Watershed Synergy Group BMP* [Handbook].

Battle Lake Watershed Synergy Group, 2008, *Battle Lake Watershed Synergy Group* [Brochure].